OBJECTIVES: To estimate the annual average per patient cost for diagnosing and treating chronic hepatitis B (CHB) and its complications in three large metropolitan cities in India. **METHODS:** Health resources consumed during the diagnosis and treatment of CHB and its complications were estimated by administering a structured survey to a total of 30 participating physicians from 3 cities (8 hepatologist/gastroenterologist and 2 oncologist treating hepatocellular carcinoma patients per city). Equal number of physicians from private and central government health scheme hospitals (CGHS) participated in the survey. Cost for laboratory tests, imaging, procedures, hospital admissions, physician visits, and drugs received on an inpatient and outpatient basis were estimated using rates provided by private setting centres and CGHS approved rates in the 3 cities. Mean, median, standard deviation, and frequency were used to analyze data. **RESULTS:** Total annual average cost for treating CHB, compensated cirrhosis, decompensated cirrhosis, and hepatocellular carcinoma (HCC) were INR 79,768 (USD 1,269), INR 53,223 (USD 846), INR 3,99,316 (USD 6,355), and INR 5,069,12 (USD 8,067) in a private hospital and INR 49,796 (USD 792), INR 33,976 (USD 538), INR 2,73,564 (USD 4,353), and INR 358,071 (USD 5,698) in a CGHS hospital, respectively. The added inpatient cost of undergoing liver transplant for eligible HCC patients was on an average INR 25,00,000 (USD 39,783). **CONCLUSIONS:** Findings from our study provide an initial understanding of the magnitude of direct medical cost burden that CHB and its complications impose on patients in India. The results highlight the increasing health-care cost related to disease progression which can be potentially reduced by effective prevention strategies, early treatment, and patient education to improve adherence to treatment. Future efforts should focus on conducting large observational studies using patient level data and develop models to support uptake of cost-effective strategies to manage the burden of CHB in India.

PIN36

THE HEALTH AND MEDICAL CARE COSTS FOR HOSPITALIZED ALL-CAUSE PNEUMONIA AMONG CHILDREN <2 YEARS, PRE AND POSTTHE INTRODUCTION OF PREVENAR13 IN SWEDEN

Berglund A[1], Nyman L[2], Dorange A[2]

[1]*Biogen AB, Upplands Vasby, Sweden,* [2]*Pfizer, Sollentuna, Sweden*

OBJECTIVES: The aim of this study was to estimate health and medical care costs for hospitalized pneumonia among children <2 years of age, pre- and post the introduction of Prevenar13 (PCV13) in Sweden. **METHODS:** The incidence of inpatient all-cause pneumonia (ICD-10 J12-J18) by County Council among children <2 years old between 1998 and 2013 was identified using the Swedish National Inpatient Register. The average incidence of pneumonia was calculated among County Councils that were utilizing PCV13 in two periods; the pre PCV period (during 1998-2006) and the post PCV 13 period (during 2011-2013). In a subsequent step, the average incidence per 100 000 by calendar period was multiplied with the expected costs of inpatient pneumonia (34 524 SEK, 3 712 €) **RESULTS:** The mean rates of all-cause pneumonia hospitalizations per 100,000 person years were higher in the pre-PCV13 era compared to after the introduction of PCV13 in Sweden (pre-PCV13; 596.4 and post-PCV13; 455.7 per 100,000 person years, respectively). A difference of almost 5 million SEK (538 000€), in health and medical care costs per 100,000 person years was observed during the pre and post introduction of PCV13 among County Councils that were utilizing PCV13 between 2011 and 2013. **CONCLUSIONS:** Among children < 2 years old, all-cause pneumonia hospitalizations were reduced after introduction of PCV13 vaccination in Sweden. A reduction in the incidence of pneumonia also reduced the health and medical care costs.

PIN37

HEALTH-ECONOMIC EVALUATION OF CLOSTRIDIUM DIFFICILE INFECTION (CDI) AND EPIDEMIOLOGY IN ENGLAND AND MERSEYSIDE

Nakamura CA[1], Roberts P[2], Beadsworth M[2], O'Brien S[1], Pirmohamed M[1], Hughes D[3], Miyajima F[1]

[1]*University of Liverpool, Liverpool, UK,* [2]*Royal Liverpool and Broadgreen Univeristy Hospitals Trust, Liverpool, UK,* [3]*Bangor University, Bangor, UK*

OBJECTIVES: The aim of this study was (1) to assess the epidemiologic profile of CDI in England and Merseyside in the last decade and (2) to estimate the costs associated with CDI episodes through successive seasons (2008-2012) in a large hospital setting (Royal Liverpool & Broadgreen University Hospitals). **METHODS:** (1) National figures for incidence and CDI-associated deaths were obtained from the Office for National Statistics and the Public Health England. (2) Clinical and epidemiological information was obtained from 397 consecutive CDI and antibiotic-associated diarrhoea (AAD) patients assessed by medical staff and recruited by a prospective study. Costs were obtained through the determination of hospital stay and the most relevant Healthcare-Resource-Group (HRG) recorded for the disease period until their discharge/death. Generalised linear models with gamma distribution were employed for the multivariate analysis. **RESULTS:** A CDI epidemic season was evident between 2005 and 2010, reaching its peak during the 2007/2008 season following by an endemic phase (2011/2012 onwards). Between 2009-2013 when national figures became available, Northern and Western regions displayed the highest incidence and death rates. Within Merseyside, Liverpool had the highest incidence of all. Significantly higher incidence rates of CDI were generally correlated with index-of-multiple-deprivation (IMD), which was particularly higher in Merseyside than the national average. Mean costs for cases were significantly higher (£14,424.07) than controls (£3467.25). Pre-test costs and low Albumin levels were statistically significant predictor of CDI costs. **CONCLUSIONS:** CDI was indeed associated with increased overall hospitalisation costs. However, the extent to which CDI per se prolongs hospitalisation remains an objective as comorbidities and underlying conditions (denoted by pre-test costs) were the strongest predictors. Further work is being conducted to disentangle the impact of other significant contributing factors, and the use of HRGs will be compared to Patient-Level-Information-and-Costs-System (PLICS) using a replication set of patients.

PIN38

ASSESSMENT OF DIRECT COST FOR TREATMENT OF INFLUENZA AND ARI FOR OUTPATIENT IN UKRAINE

Leleka M, Zalis'ka O

Danylo Halytsky Lviv National Medical University, Lviv, Ukraine

OBJECTIVES: According to World Health Organization, influenza and acute respiratory infections (ARI) affect more than 30% of the population each year. In Ukraine the burden of costs for medicines are mainly paid by patients out of pocket. **METHODS:** We analyzed the statistics of the Ministry of Health of Ukraine, the incidence of influenza and ARI, the Protocol for diagnosis and treatment of novel influenza A (H1 / N1) (CA) in adults in Ukraine and used the pharmacoeconomic method «Cost of illness». **RESULTS:** We received that number of outpatients were in 2009-2010 (Nov- May, Pandemic) - 7,753,635 sick persons, 2010-2011 (Oct 2010 - Apr. 2011) - 7,502,008, 2011-2012 - 5,584,518, 2012-2013 – 6,200,000, 2013-2014 – 6,015,000, respectively. Based on these data, we found that in 2014 the number of cases decreased by almost 1, 5 million compared with 2010. Now we compared the direct costs on outpatient treatment in 2014 and 2010. The direct cost per patient of influenza and ARI in 2010 amounted to 80,39 UAH. We estimated the total costs were 60386423 UAH. Direct costs for outpatient costs consist of expenses for medicines and doctor's consultations. The direct cost per patient of influenza and ARI in 2014 totaled 221,07 UAH. Cost of Illness was 1329751087 UAH. This situation is connected with the rising prices of drugs through the exchange rate in Ukraine in 2014. Financing of medicines by 90% are of own patient funds. In Ukraine established the some groups which drugs are dispensed free of charge or concessional. They represent the range of 10% of all patients. **CONCLUSIONS:** High costs for treatment of influenza and ARI should reimburse by state and it's need the monitoring the incidence and to evaluate indirect costs.

PIN39

POTENTIAL HEALTH AND ECONOMIC IMPACT OF INTRODUCING A DENGUE VACCINE IN MALAYSIA: ASSESSMENT USING DYNAMIC TRANSMISSION MODELLING

Yeo HY[1], Shafie AA[1], Coudeville L[2], Steinberg LD[3], Gill BS[4], Jahis R[4]

[1]*Universiti Sains Malaysia, Penang, Malaysia,* [2]*Sanofi Pasteur, Lyon, France,* [3]*Sanofi Pasteur, Petaling Jaya, Malaysia,* [4]*Ministry of Health Malaysia, Wilayah Persekutuan Putrajaya, Malaysia*

OBJECTIVES: Malaysia is experiencing an escalation of dengue epidemic activity. The candidate vaccine currently at the most advanced stage of development has demonstrated its efficacy in two large scale efficacy studies. This study aims to estimate the potential health and economic impact of the vaccine in Malaysia under different vaccination strategies. **METHODS:** A dengue dynamic transmission mathematical model was employed to evaluate the impact of dengue vaccination program on the incidence, mortality and economic burden of the disease. The model was calibrated and validated with Malaysia specific epidemiological data and vaccine efficacy data from phase-III efficacy studies. The impact was evaluated over a 10-year period from provider perspective. Two vaccination strategies, targeted-hotspots (THS, covered population in 6 selected hotspot districts) and nationwide (NW, covered the whole Malaysian population), were simulated. Both strategies comprised of routinely vaccinated children aged 13 and a catch-up cohort from ages 14 to 30 who were vaccinated over a 1 year duration. Probabilistic and univariate sensitivity analyses on key parameters were conducted to examine uncertainty in the model. All costs were expressed in 2013 USD. **RESULTS:** The cost per dengue case from provider perspective was USD999.02. The model predicted that dengue vaccination under the THS strategy would prevent 448,124 [95%CI: 292,875; 632,375] dengue cases, 509 [95%CI: 335; 707] dengue-related deaths, 11,785 [95%CI: 7,888; 16,329] life years lost and 16,751 [95%CI: 11,128; 23,281] DALYs. Nationwide vaccination would prevent 1,060,222 [95%CI: 694,181; 1,490,929] dengue cases, 1,202 [95%CI: 797; 1,672] dengue-related deaths, 27,834 [95%CI: 18,756; 38,501] life years lost and 39,584 [95%CI: 26,464; 54,968] DALYs. The total dengue treatment cost saved for THS and NW vaccination strategy were USD163,859,846 [95%CI: 109,093,124; 235,805,776] and USD386,962,641 [95%CI: 257,410,189; 557,347,377] respectively. **CONCLUSIONS:** We conclude that dengue vaccination would significantly reduce the disease and economic burden in Malaysia, especially if it is introduced during current dengue epidemic.

PIN40

ECONOMIC ANALYSIS OF OUTPATIENT PARENTERAL ANTIMICROBIAL THERAPY (OPAT): A SYSTEMATIC REVIEW

Psaltikidis EM[1], Silva E[2], Bustorff-Silva JM[1], Moretti ML[3], Resende MR[3]

[1]*Clinical Hospital of State University of Campinas, Campinas, Brazil,* [2]*University of Brasilia, Brasilia, Brazil,* [3]*Faculty of Medical Sciences, State University of Campinas, Campinas, Brazil*

OBJECTIVES: Outpatient parenteral antimicrobial therapy (OPAT) is a strategic delivery modality of care however cost-analysis should support decision-making. This study was performed in order to analyze the economic studies related to OPAT **METHODS:** a systematic review was performed with the following search terms: outpatient (Population), anti-infective agents, infusion therapy or home care (Intervention), inpatient (Comparator), complications related to infection, cure, readmission, catheter infection, death (Outcome), and economic analysis (Study design). Publications were searched from health sciences databases (MEDLINE, Embase, The Cochrane Library, Lilacs, Bireme, Medscape, Trip database, Web of Science), health technology evaluation sites and gray literature (dissertation abstracts), independently of publication´s year or idiom. Three different reviewers evaluated the manuscripts in a systematic progressive process beginning from title followed by abstract and complete reading for quality of evidence. **RESULTS:** 655 publications were identified according to PICOS proposed. Of this, 9 studies developed in eight different countries, from 2001 to 2014, were included for analysis. OPAT regimen was based on infusion center at five (combined with home care in three) and home care exclusively in four studies. The perspective of cost analysis was of the hospital by seven sites, health care system in one, hospital combined to health care system in one and payer by the other one. The type of analysis was cost-consequence in